

REMARKS

New claims 82-83 are added. Claims 51-53, 55-59, 62-83 are pending in the application for consideration.

Regarding the last paragraph of page 3 of this office action, paper no. 23, such paragraph was inadvertently placed in this office action. A teleconference with Examiner Mulpuri, on June 13, 2002, confirmed such, and the Examiner stated to disregard the paragraph.

Claim 53 stands objected to for dependence from a rejected base claim.

Claims 55-59 are allowed, and Applicants acknowledge same. Moreover, dependent claim 79 depends from allowed claim 55, but stands rejected for obviousness by Gardner et al. (U.S. patent no. 5,923,949). Respectfully, such rejection is inappropriate and should be withdrawn. Applicants respectfully request allowance of claim 79 in the next Office Action.

Claims 62-81 stand rejected under 35 U.S.C. §103 as being unpatentable over Gardner. Claims 51-52 stand rejected under 35 U.S.C. §103 as being unpatentable over Suzuki et al (U.S. patent no. 5,506,178).

Claim 51 recites providing fluorine **within** a gate oxide layer. Suzuki teaches a halogen-rich layer is **developed** in the vicinity of the surface of a silicon dioxide film 14 (col. 6, Ins. 8-12). In no fair or reasonable interpretation do the Suzuki teachings regarding development of a layer in the vicinity of the surface of film 14 teach or suggest providing fluorine **within** a gate oxide layer as recited in claim 51. Suzuki fails to teach or suggest a positively recited

limitation of claim 51, and therefore, claim 51 is allowable. Applicants respectfully request allowance of claim 51 in the next office action.

Claims 52-53, 76-78 and 82-83 depend from independent claim 51, and therefore, are allowable for the reasons discussed above with respect to the independent claim, as well as for their own recited features which are neither shown or taught by the art of record.

Moreover, dependent claims 76-78 are rejected by Gardner while the independent claim 51 from which they depend is rejected by Suzuki. Such rejection against claims 76-78 is nonsensical and inconsistent. Applicants request correction of such rejection against claims 76-78 in a subsequent non-final office action if such claims are not found to be allowable. The Examiner is respectfully reminded that, referring to 37 C.F.R. §1.104(c)(2), it is stated that the Examiner must cite the best references at their command. When a reference is complex or shows or describes inventions other than that claimed by Applicants, the particular teachings relied upon must be designated as nearly as practicable. The pertinence of each reference if not apparent must be clearly explained for each rejected claim specified. Applicants respectfully request clarification of any rejections of claims 76-78 with respect to specific references and specific references teachings therein pursuant to 37 C.F.R. §1.104(c)(2) in a non-final action if such claims are not allowed.

Claim 62 recites forming sidewall spacers comprising at least one of chlorine or flourine proximate opposing edges and directly elevationally over a

gate oxide layer. The Examiner correctly states that such limitation is not taught by Gardner (Page 3, Paper No. 23) and addresses the deficiency by stating that such claimed numerical limitation could be obtained through routine optimization as a "fine tuning process" based on the ruling of *In re Aller, Lacey, and Hall*, 220 F.2d 454, 105 USPQ 233 (CCPA 1955) (Page 3, Paper No. 23). The Examiner is mistaken.

The court for *In re Aller* stated that "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation" referring only to ranges in concentration and temperature. 220 F.2d, at pg. 456, 105 USPQ at pg. 235. The MPEP makes this clear at §2144.05. Accordingly, if "routine experimentation" still exists, it is a very narrow doctrine dealing with the obviousness of experimentation to determine optimal or workable ranges of only two physical characteristics of materials: temperature and concentration. *In re Aller, Lacey, and Hall*, 220 F.2d 454; see also *In re Swain and Adams*, 33 CCPA (Patents) 1250, 156 F.2d 239, 70 USPQ 412, 415. And the doctrine has always been in disfavor. The *In re Yates* court stated, "The problem, however, with such 'rules of patentability' (and the ever-lengthening list of exceptions which they engender) is that they tend to becloud the ultimate legal issue—obviousness—and exalt the formal exercise of squeezing new factual situations into preestablished pigeonholes. Additionally, the emphasis upon routine experimentation is contrary to the last sentence of section 103". *In re*

Yates, 663 F.2d 1054, 211 USPQ 1149, 1151 n.4 (CCPA 1981). Claim 62 does not recite any limitation dealing with temperature or concentration, and therefore, the rejection against claim 62 based on routine experimentation is inappropriate and should be withdrawn. For at least this reason, claim 62 is allowable. Applicant respectfully request allowance of claim 62 in the next Office Action.

Claims 63-67 and 80 depend from independent claim 62, and therefore, are allowable for the reasons discussed above with respect to the independent claim, as well as for their own recited features which are neither shown or taught by the art of record.

Claim 68 recites forming a gate over a gate oxide layer, the gate having opposing lateral edges and the gate oxide layer provided elevationally below the gate and extending laterally past the lateral edges of the gate. Once again, the Examiner correctly states that such limitation is not taught by Gardner (Page 3, Paper No. 23) and addresses the deficiency by stating that such claimed numerical limitation could be obtained through routine optimization as a "fine tuning process" based on the ruling of *In re Aller*. Claim 68 does not recite any limitation dealing with temperature or concentration, and therefore, the rejection against claim 68 based on routine experimentation is inappropriate and should be withdrawn. For this reason, claim 68 is allowable. Applicants respectfully request allowance of claim 68 in the next Office Action.

Claims 69-75 and 81 depend from independent claim 68, and therefore, are allowable for the reasons discussed above with respect to the independent


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claim, as well as for their own recited features which are neither shown or taught by the art of record.

In view of the foregoing, allowance of the pending claims is requested. The Examiner is requested to phone the undersigned in the event that the next Office Action is one other than a Notice of Allowance. The undersigned is available for telephone consultation at any time during normal business hours (Pacific Time Zone).

Respectfully submitted,

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Group Art Unit 2812
Examiner S. Mulpuri
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Title: Methods of Forming A Transistor Gate

VERSION WITH MARKINGS TO SHOW CHANGES MADE ACCOMPANYING
RESPONSE TO MARCH 13, 2002 OFFICE ACTION

In the Claims

The claims have been amended as follows. Underlines indicate insertions
and ~~strikeouts~~ indicate deletions.

There are no amendments to the claims.

Please add the following new claims:

82. (New) The method of claim 51 wherein the providing comprises
providing using ion implantation.

83. (New) The method of claim 51 wherein the providing comprises
providing using an *in situ* process.

-END OF DOCUMENT-

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